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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,364	12/11/2001	Raul Victorino Nunes	8625	1135

27752 7590 06/02/2004

THE PROCTER & GAMBLE COMPANY  
INTELLECTUAL PROPERTY DIVISION  
WINTON HILL TECHNICAL CENTER - BOX 161  
6110 CENTER HILL AVENUE  
CINCINNATI, OH 45224

EXAMINER
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PRATT, HELEN F

ART UNIT	PAPER NUMBER
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1761

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/014,364

Applicant(s)

NUNES ET AL.

Examiner

Helen F. Pratt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

Applicants' Terminal Disclaimer has been received and approved.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barey (5,866,190) or Young et al. (2002/0160086 A1).

Barey discloses a process of making a drink by combining pectin and alginates with sugar (enhancer), then an acid is added in the form of fruit juice and citric acid and then the mixture is packaged (abstract and col. 6, lines 30-45). Young discloses an acidic based beverage, which contains milk proteins (an enhancer), and stabilizers such as pectin and propylene alginate (para 0049—0053). The hydrated stabilizers are added to the milk proteins (enhancer material). Acid can be added after the above mixture is homogenized. Claims 1, 7 and 9 differ from the reference in the step of dispersing the beverage components at a particular range of NP/M or for a particular time. However, nothing new or unobvious is seen in mixing ingredients at particular

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times or NP/M's absent a showing of unexpected results. The discovery of an optimum value of a result effective variable is ordinarily within the skill of the art. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). In developing a beverage product, which contains suspended particles, processes such as mixing ingredients are important. It appears that the degree of mixing as well as the time of mixing affects the degree of suspension of the particles in the beverage, and thus are result effective variables which one of ordinary skill in the art would routinely optimize. In addition, the reference to Young et al. disclose adding the acid to the homogenized mix with low shear mixing (page 4, para. 0056). The particular degree of mixing is seen as being within the skill of the ordinary worker to mix until the desired product is obtained. Therefore, it would have been obvious to mix for whatever time which would keep the enhancing material in suspension, because the reference also shows mixing as in homogenization and it is well known to mix anytime ingredients are added to a mixture in order to incorporate them into the mixture.

Claim 1 further requires particular degrees of dispersing the beverage component as in step C 1 of claim 1. However, Young et al. disclose that it is known to use low shear conditions for 20 minutes, which is sufficient to disperse and hydrate stabilizers, or to use 5 minutes under high shear conditions. Therefore, it would have been obvious to use higher shear conditions as disclosed by Young et al. to further stabilize the composition. Nothing has been shown that the high shear conditions as in page 2, para. (0052) is not sufficient comparable to the degrees of dispersing claimed.

Claim 1 further requires that the composition is substantially free of emulsifiers and surfactants. However, applicants' claim 7 states that pectin and alginates are considered to be stabilizers. No other ingredients in the composition have been pointed out as emulsifiers or surfactants. Therefore, it would have been obvious to make a composition as disclosed by the above references without emulsifiers or stabilizers.

Claim 1 further requires that the enhancer material can be oils or opacifiers. However, Barey discloses the use of orange flavor (col. 5, lines 45-55). However, applicants' specification discloses that flavor emulsions can contain flavor oils and essential oils and can be orange flavor (page 23, 4<sup>th</sup> para.). Also, the milk protein of Young et al. is considered to be an opacifier, because just as in milk, it makes the milk opaque (abstract). Therefore, it would have been obvious to use particular enhancers in a composition free of emulsifiers and surfactants.

Claim 2 further requires that the stabilizer system and liquid be mixed to a particular NP/M and then adding the enhancer to it and later mixing as above and adding acid. However, Barey discloses that it is known to mix together stabilizers before adding other ingredients (col. 6, lines 45-56). As above, particular degrees and times of mixing are seen as being within the skill of the ordinary worker. No data is seen that the product of Barey, in particularly, differs from the claimed process. Therefore, it would have been obvious to mix to particular NP/M's or for various lengths of time.

Claims 3 and 4 further require that the beverage component be dispersed with the second dispersion over a period of time or as in claims 6 and 8 at a particular NP/M. However, as above, nothing new is mixing ingredients absent a showing of unobvious results. Therefore, it would have been obvious to mix for various lengths of times because this is seen as being within the skill of the ordinary worker.

Claim 5 requires temperatures below 80 C. The reference to Barey does not require a heat treatment (col. 6, lines 45-70). Therefore, it would have been obvious to process without the use of heat.

Claims 11 –21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above references as applied to the above claims, and further in view of Mezzino et al (4,529,613).

Mezzino et al. disclose a cloud system made of a polymeric carrier component, pectin and titanium dioxide (abstract). The titanium dioxide is added to an aqueous solution of maltodextrin and pectin and the suspension is co-dried (col. 6, lines 23-45). The suspension then can be reconstituted with water to make a beverage (col. 8, lines 45-48). Even though Mezzino et al. disclose a dry mix, Mezzino et al. disclose that it is known to add an enhancer as in claim 10 such as the opacifier, titanium dioxide, to pectin before adding it to other materials. The reference discloses that the titanium dioxide will precipitate if only dry mixed with the other ingredients when mixed in a beverage (col. 6, lines 27-45). Therefore, it would have been obvious to use an enhancer such as titanium dioxide in the composition of Barey or Young et al. since it is

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known that the opacifier, titanium dioxide, will precipitate out of solution, if mixed without forming a complex first.

Claim 11 further requires a particular NP/M of the composition ingredients and claim 12 mixing at a particular temperature. However, as in the discussion of claims 1 and 5, nothing new or unobvious is seen in mixing ingredients when the outcome is known, and therefore, mixing to that degree or at a particular temperature.

Claim 13 further requires a highly methylated non-amidated pectin with particular ratios as in part b. Mezzino discloses a high degree of methylation, but not the particular ratio. Nothing is seen at this time that the claimed ratio would not have been as claimed since a highly methylated pectin is disclosed (col. 4, lines 60-70). Therefore, it would have been obvious to use a high degree of methylation in the composition, particularly as Barey also uses a high degree of methylation (col. 3, lines 6-12).

Claim 14 further requires a particular ratio, which is disclosed by Barey in col. 2, lines 29-35). Therefore, it would have been obvious to use ratios within the claimed amount.

The amount of pectin as in claim 15 is disclosed by Barey in col. 3, lines 6-14. Therefore, it would have been obvious to use the claimed amounts.

The limitations of claim 16, 18 -21 have been disclosed above and are obvious for those reasons.

The pH of claim 17 is within the claimed range as in claim 17 of 2-5 (col. 5, lines 19-24). Therefore, it would have been obvious to make a beverage with the claimed pH using the process of Barey.

## ARGUMENTS

Applicant's arguments filed 5-24-04 have been fully considered but they are not persuasive. Applicants argue that there is no reason in either the process of Barey or Young et al. to stabilize low density or high-density materials such as opacifiers or oils of the present invention. However, oils are disclosed as in the flavorant in Barey and milk protein as an opacifier in Young et al. Also, Barey discloses that a problem is found with drinks containing insoluble components, which can be essential oils, which have a tendency to separate out creating sedimentation or creaming (col. 1, lines 10-14). Essential oils such as orange oils are found in flavorants. It is noted that vitamins and minerals are used in the process of Young et al. and nothing is seen that the vitamins and minerals are not stabilized (page 2, para. 0025). Therefore, it is seen that there is motivation to modify the references since oils and opacifiers are used as are vitamins and minerals which are known to be used in beverages using stabilizers and it is known to use high shear conditions to process the beverages, which would at the same time stabilize the vitamin and minerals and protein in the composition and the reference is to the use of alginate and pectin in drinks containing suspended insoluble components (col. 2, lines 29-35 of Barey).

Applicants argue that the reference to Young et al. use low shear conditions so that the mixture will not be denatured. However, as above high shear conditions can be used for less time, such as 5 minutes, which are within the claimed time.



Applicants argue further that there is no teaching in Young et al. as to opacifiers being stabilized. However, this is not seen because milk protein certainly is an opaque material. As to Barey, even though the reference does not go into processing conditions as to NP/M, no problem is seen in their mixing conditions such as "low shear of 30 = 4.8 mPa's " to keep the flavorant in suspension (col. 5, lines 15-25 and col. 6, lines 30-31). Nothing has been shown that this level of shear is different than that claimed or is not adequate to keep the oils of the orange flavor in suspension.

Applicants argue that there is no reason to combine Mezzino with the above references because it is to a dry composition and that it is critical that the titanium dioxide (TO) is first added to an aqueous solution of maltodextrin and pectin and the resultant suspension dried concurrently. However, the drying is required for a dry product. The reference still teaches that it is known to first add TO to an aqueous solution of maltodextrin and pectin and that the combination of each component by mixing in a dry form does not have utility since TO would precipitate out when the mix is put in a beverage (col. 6, lines 27-45). Barey also teaches dispersing the flavorant with the pectin/alginate mixture then stirring into tap water (col. 5, lines 30-65). It is not seen at this time that the critical step in Mezzino is to dry the composition, but to mix the TO with the maltodextrin and pectin before drying just as Barey stabilizes the flavorant before adding to water (col. 6, lines 30-35) and Young et al. disclose adding stabilizers to milk protein (opacifier) col. 4, para. 0054 -0057. Maltodextrin has not been excluded from the claims. Therefore, it is seen that motivation has been shown as above to combine the TO with stabilizers in the primary references.

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Applicants argue that not all the claim limitations have been shown. The use of high and low-density materials and the limitations as to emulsifiers and surfactants have been discussed above. However, as above, flavor oils and opacifiers have been shown to be supported by stabilizers without the use of emulsifiers and surfactants and therefore, the above combination of references successfully disclose the claimed process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen F. Pratt whose telephone number is 571-272-1404. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Milton Cano, can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hp 5-31-04

  
**HELEN PRATT**  
**PRIMARY EXAMINER**